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Deconstruction: A New Way of Design in Informal Areas Case Study Riverside Area

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ABSTRACT

The paper presents a description of Deconstruction and what is its importance for the informal settlements. This research is inspired by the problems that came out from a specific area which is Tirana Riverside, located in the North part of the capital city of Albania. This is an informal area and is very problematic in its context.

In the introduction are treated all the problems that come out of the field study.Very generally are given the meanings of some important keywords. In the next part is considered what is the meaning of deconstruction and the reason why this new concept of design can be implemented in the Riverside area. It is necessary to explain, how can be developed the deconstruction in Albania, why deconstruct, when and where to deconstruct, what and how to deconstruct. Deconstruction is considered as part of a new design for the informal areas in Albania.

A further analysis is done for the theory of layers in the informal buildings, because of the importance for the evaluation of the intervention with the building deconstruction. In the conclusions are given some objectives and recommendations for the use of deconstruction for the improvement of the informal areas.

KEYWORDS: deconstruction; design for deconstruction; reuse of materials; sustainability.

1 INTRODUCTION

It is very important the impact with the site and all the problems that come out after meeting the place. Making interviews with the habitants there we can understand many things. All this is explained in the *2.Context and problematic.* In the next part it is considered what is deconstruction and the reason why this new concept of projecting can be implemented in the Riverside area. It is necessary to be well explained how we can develop the deconstruction in Albania. Very generally in this paper are given the meanings of some important keywords in the 3.*Some issues to be taken into consideration* and *4.Key definitions and principles* The other step present in the paper is to find out the objectives of this research, explained in *5.Objectives.* The next step in this paper is *5.Background.* After explaining how

deconstruction is implemented in other countries it is necessary to find out whatare the results of all this, so we arrive to step *6.Expected results.*Some conclusions are reached at the end of this paper.

2 CONTEXT AND PROBLEMATICS:

2.1 The Albanian context:

- Albania became a Parliamentary Republic in 1992
- It inherited many disparities in citizens' rights
- It is presented a multi ethnic population
- Infrastructure like: road, rail, airports, telecoms, electricity is expanding
- Strong financial markets, competitive commerce and industry
- About 300 days of sunshine a year

2.2 Problematics:

The riverside area is in the north of the capital city of Albania,Tirana.A part of this area is under the local governance of the Municipality of Tirana and the other part under the local governance of Paskuqan.In the past none of the municipalities has worked to develop the zone.The most part of this area is an informal one.Visiting and analyzing the site you can face many problems:

- Informal buildings
- Bad infrastructure
- Waste materials everywhere
- Buildings in bad conditions
- Jobless people

Going to the site we face the habitants there and hear their problems. Making them questions is a way to find out their problems.The first visit on site needs to be to the people that live near the river. They live in very bad conditions. One of the main problems was their way of living and their houses. The most part of them were jobless and the reason was because the society doesn't accept them and the Government doesn't help their community. The second step to undertake is visiting the other habitants of Riverside area. Mostly they come from the north part of Albania. They have all almost the same way of living and thinking.

The development of the riverside area is very important for Tirana because it is expected in the future that Tirana grows in that direction.The actual situation makes this mission very difficult especially because of existing buildings and their position in urban plan.These problems lead me to think about deconstruction.

Because of all these problems is very important to find out:

- What is deconstruction?
- Why do we want to deconstruct? Why do we want to reuse materials?
- When to deconstruct and where to deconstruct?
- What to deconstruct?
- How to deconstruct?
- Which are the stakeholders? How we can identify the stakeholders for a sustainable development
- What are the negotiations and partnerships?

3 SOME ISSUES TO BE TAKEN INTO CONSIDERATION

3.1 What is deconstruction?

Deconstruction: "Deconstruction is a process of building disassembly in order torecover the maximum amount of materials for their highest and best re-use. Re-use is thepreferred outcome because it requires less energy, raw materials, and pollution thanrecycling does in order to continue the life of the material. As a consequence ofdeconstruction, there are also many opportunities for recycling other materials (in thedisassembly process)." (Guy, 2003)

The aim of deconstruction is to revitalize a specific community. As an innovative tool, the purpose of this new term is actually describe an old process**- the selective dismantling or removal of materials from buildings before or instead of demolition**. Deconstruction's innovation lies on the potential use of this process –to support and complement other community objectives. Deconstruction can potentially contribute to: 1.new job trainings for unskilled or unemployed workers, 2. the creation and expansion of small businesses to deal with rescued materials created from deconstruction projects. 3. The benefit to the environment since it can make valuable resources from landfills into profits, by allowing deconstruction to pay for itself by generating revenues, and consequently minimizing disposal or landfill costs.

3.2 Why do we want to deconstruct?

Deconstruction means the recovery in quality and quantity of reusable and recyclable materials. Materials can be re-used and this brings a lot of benefits and also the provision of low cost materials to community and avoidance of demolition debris going to landfills.

It is worthless to build up a deconstruction plan in which recycling is the main purposeand its life costs are bigger than the actual benefits.

The buildings in the Riverside area areold and in bad conditions.They are gong either to be destroyed because they cannot hold any more or because of the master plan. What we have to do is giving the right materials to the right people before these buildings are destroyed.

3.3 Where to deconstruct and when to deconstruct?

Buildings have many different parts and they are used for social, service, economic and fashion reasons.Time theory of related building layers is a new idea. According to that, a building can be read as a number of distinct layers and each of them has its own service life. This idea offers an insight between deconstruction and life services. If we know the component that forms a layer, the beginning and the ending of a layer, we can decide where and when to deconstruct.

3.4 What to deconstruct?

Materials and components can be recycled in many different ways, from reuse and total relocation to materials that can be recycled or used for energy. The question that comes into mind is what to deconstruct and to answer that question we should give an answer to what the intended form of recycling is.Deconstructions made for component relocation might differ from those made for component relocation. That is why hierarchy of recycling options deconstruction designs arein relation.

In the Riverside area the buildings that can be part of deconstruction and of the reuse process are the houses of the gipsy people that live near river and the buildings that are in the master plan area.

3.5 How to deconstruct?

Some sources can be as follows: industrial design, architectural technology, buildability, maintenance, and international research done on how to deconstruct. The building's deconstruction is a topic not so well-studied in the past years. However, the aforementioned sources of information can be searched for recurrent topics.These themes can then be developed as principles for design for deconstruction.

3.6 Which are the *stakeholders?*

The stakeholders can be identified very easily because everyone, from the architect and engineer that design a design for deconstruction up to the person that lives in the particular building.The purpose of this concept of deconstruction is to have a sustainable urban development so the partnership between the stakeholders and the different negotiations are very important.

It is important to find out the problems in this area and to give the ways and alternatives for solution. In this research must be involved the habitants that live there like gipsy people and the others arrived in this zone from all the cities in Albania.

4 KEY DEFINITIONS AND PRINCIPLES

Designing for Deconstruction: *"Current practice in the deconstruction of existingbuildings has shown that there are numerous technical barriers to the successful recovery and reuse of components and materials. These barriers stem mainly from current construction practice that sees the assembly of materials and components as a unidirectional practice with an end (or, only a) goal of producing a final building. ……such a linear view of the built environment severely limits the end-of-life options when a building has reached the end of its service life. A more cyclic view of the built environment and the materials within it will recognize the need to consider, at the design stage of a project, the deconstruction process as well as the construction process. Such consideration can be expressed as the need to design for disassembly."* (Crowther, 2003)

Sustainability: *"Sustainability involves a move from a current condition of unsustainable activity towards a process of improvement and increased quality. Essentially the term is used to indicate a change of attitude towards prioritizing ways of life that are in balance with the current renewable resources of the ecosystem and the biosphere."* (Grierson,2003)

4.1 The Theory of Layers in the building

Time theory of related building layers is really important to evaluate the right points in a building deconstruction might take place. To achieve the complete deconstruction for materials and components recovery, different parts of the building need to be separated from each other. It would take a lot of time and money to do it. Time theory of layers consists in braking down into packages of same purposes, parts of the building, its components, .This will make possible for the package to work as a whole to deconstruct it and then recycling or reuse in some other place.

· *Re-using* a product is reused more than once for its own purposes.
For example, an ink bottle being returned to the dairy to be refilled with ink.

· *Recycling* products arefirst collected and then separated into their base materials. They can be reused in replacement of raw materials in the production process.

Deconstruction can be seen as an instrument to receive the desired end. Deconstruction can help us to recover correctly building elements, components, sub-components (sub-elements) and materials which can either be reused or recycled in an appropriate and profitable way. Within the purpose of the design of deconstruction, one has to make a distinction between designing for reuse and designing for recycling. This division is done based upon elements and types of materials used in a specific edifice.

5 OBJECTIVES:

1. *To develop the process of technically tools in the deconstruction*
   - How can we do it?
   - How can we realize it in a technical way?
   - How can we realize it in juridical way?
2. *To create a deconstruction guide*
   - What is the purpose of this guide?
   - Why is it necessary?

The purpose of this deconstruction guide is to provide guidance to deconstruction managers, supervisors and workers who will work for deconstruction in Riverside area. It is also appropriate for anyone who resells or redistributes salvaged materials from buildings. One of the main objects of deconstruction is the reuse of materials.

3. *To make an organization plan and a site plan*

- Organization plan is the plan for dealing with the specific process of how deconstruction will take place and with the worker issues.
- The purpose of the Site Plan is to settle the locations of everything that will be part of the site.

4. To create a base-line of information for the design community (architects, engineers, designers)

The design community can read and have this base-line information as a guide to follow during their practices and their impact on natural resources and systems.

5. Collect representative opinions and information from firms in design/construction industry about the existing problems of deconstruction and the opportunities that It has for the future
6. Analyze and coalesce the existing research and information about designing for deconstruction/disassembling into the interdependent domains of sustainability (i.e., Environmental, Socio-cultural, Technological, Economic, and Public Policy issues andconsequences)
7. To create possible scenarios of implementing the deconstruction in Riverside area.

If the possible scenarios are successful they can be implanted in other areas of Albania

8. To create possible scenarios for partnership among stakeholders.

If we can have partnerships in Albania among different actors then we can hope and work hard to negotiate with the foreigners to earn international partnerships. People can have economic and environmental profits if they all work together

7 BACKGROUND

The first stepto take is to find the right information about deconstruction and the meaning of "reusing materials". I have to find out all about this new point of view of having urban development. This can be achieved if we find the proper design for deconstruction which is implemented elsewhere or we'll have to create it.

I. *Guy, Bradley, and Scott Shell, "Design for Deconstruction and Materials Reuse." Deconstruction Institute, 2003.*

II. *Concepts for Reuse and Recycling of Construction and Demolition Waste (Patrick J. Dolan, Richard G. Lampo, and Jacqueline C. Dearborn)*

III. *Developing an inclusive model for design for deconstruction, (drphilipcrowther, Queensland University of Technology, Australia)*

In this paper is well explained what is deconstruction, why do we have to deconstruct and what means reuse of the materials.

8 EXPECTED RESULTS:

What is expected from this research?

- People learn from this research how to implement deconstruction in Albania and get used of this new way of designing.
- Stakeholders that are involved learn how to partnership with each-others and the steps they have to take to realize it.
- The employers that work for the Government and those in Municipality can get a guideline for partnership with private sectors to develop the deconstruction in Riverside area. As the New Regulatory Plan of Tirana contains the projects for this area they can use deconstruction in their future projects.
- From this research the habitants learn how to negotiate with the Government and the Private sector to develop their zone.
- The design professions have a guideline to follow to understand the deconstruction. They can have a good base of reason to use deconstruction e to project from the beginning the deconstructive buildings.
- This research can be useful for other areas of Albania, especially informal areas like Riverside. Many stakeholders can take the possible scenarios and implement them in their cities and see the results. They can get ready the many guidelines of this research for deconstruction and partnership and analyze them for their sites, by adapting them.

If the deconstruction will be implemented in the Riverside area, its positive resultsand benefits are:

- Job creation and economic development
- Extends the life of landfills
- Protects the natural environment by reducing the need for the extraction of new resources.
- Provides lower cost building materials to the community
- Reduces the overall costs of building removals

People have been salvaging building materials for reuse for generation so the concept of deconstruction is not a new one, but an idea whose popularity is experiencing major growth.

The paper gives some knowledge how to involve the international partnerships. In this situation, part of the stakeholders will not be only the native actors, but also the international ones.

If the partnership among the s**t**akeholders will be successful then it will be easier for the municipality to implement the new master plan for that zone. The habitants will agree with their new future because they will have some solutions for their problems and some answers for their questions.

There are many zones in Albania with the same situation and problems like Riverside so the same scenario can be implemented there too. It will be easier for the people to agree with the changes if they see that a successful work is done in the past.

9 CONCLUSIONS

These are some conclusions that this paper achieved:

Deconstruction can be a new way of projecting in the future. This can be implemented not only in the informal settlements but everywhere. It is important for people to begin facing this new way of thinking for the future buildings.

The informal areas have many problems to face and the deconstruction can be part of the solutions of the buildings and lands degradation. Building through the concept of deconstruction can be a temporary solution in some specific cases.

Many people that live in this zone can be part of all this process in the future by working, part of a job. In the Riverside area is a big problem the community of gipsy because they do notwork. In this way they can work and earn money. There will not be any more a bad landscape and landfill in the North ofTirana.

The future of the world is "green design" and "sustainability" and the role of deconstruction in the built environment is a step further. Designing for deconstruction leads through professional design. The life cycle of any consumer product is much shorter than buildings but the number of persons involved in the buildings is larger.

It is not sure if a design enabled to ensure rapid revenue for entire buildings or specific equipment related to energy-use or technology will necessarily make them more efficient in operation, and consequently ensure their maintenance in the long run.

REFERENCES

Chattopadhyay,Basudha.Sustainable Urban Development in India: Some Issues.

Crowther, Phillip, "Deconstruction: Techniques, Economics, and Safety,"

Queensland University of Technology, Australia, 2003.

Dolan, Patrick J., Lampo, Richard L. and Dearborn, Jacqueline C, "Concepts for Reuse and Recycling of Construction and Demolition Waste," 1999

Equal Opportunities Commission (EOC), "Mainstreaming: a brief guide," 2004
www.eoc.org.uk/cseng/policyandcampaigns/mainstreaming

Grierson, David, "Arcology and Arcosanti: Towards a Sustainable Built Environment," Electronic Green Journal, Issue 18, Earth Day 2003.www.egj.lib.uidaho.edu/egj18/grierson1.html

Guy, Bradley, and Scott Shell, "Design for Deconstruction and Materials Reuse,"Deconstruction Institute, 2003. www.deconstructioninstitute.com/files/downloads

Kuska ,Sharon S. Baum. Joslyn Castle Institute for Sustainable Communities.

Payne, Geoffrey, "Research on public/private partnerships in urban land development," 1998

Private Public Partnership in Housing and Urban Development, "The Global Urban Economic Dialogue Serie," United Nations Human Settlements Program,Nairobi, 2011

Steward, W. Cecil, “The Five Domains of Sustainability,” Paper presentation,

Mayor of Shanghai’s International Business Leaders Advisory Board (IBLAC),2004

Sustainable Facilities Infrastructure (SFI), “Frequently Asked Questions,” 2004
http://maven.gtri.gatech.edu/sfi/bes/faq.html

US Environmental Protection Agency, “Waste Reduction Record Setters.” June2000www.ilsr.org/recycling/buildingdebris.pdf